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**CLAIMS:**

1. Apparatus for forming conductive bumps on a plurality of semiconductor devices with an oxidizable material, comprising:
  - 5 a bump forming device;
  - a chamber system adapted to house the semiconductor devices;
  - a gas supply for supplying an inert gas into the chamber system; and
  - a support table for supporting the semiconductor devices during bumping, said support table being operative to move the semiconductor
- 10 devices from a bumping site into the chamber system after bumping.
2. Apparatus as claimed in claim 1, including an oxidation reduction device for introducing a supply of inert gas to the bumping site.
- 15 3. Apparatus as claimed in claim 1, wherein the bumping site is adjacent to an opening of the chamber system.
4. Apparatus as claimed in claim 1, including a shroud positioned around the bumping site for covering one or more bumped semiconductor devices.
- 20 5. Apparatus as claimed in claim 4, wherein the shroud includes nozzles for introducing a supply of inert gas onto the semiconductor devices.
6. Apparatus as claimed in claim 1, wherein the chamber system
- 25 comprises an outer chamber, and an inner chamber that is houseable within the outer chamber.
7. Apparatus as claimed in claim 6, wherein the inner chamber is removable from the outer chamber.
- 30 8. Apparatus as claimed in claim 7, wherein the removable inner chamber comprises at least a portion of the support table and an inner chamber cover for forming an enclosure around bumped semiconductor devices.

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9. Apparatus as claimed in claim 7, including gas tubings that are detachably connectable to the inner chamber for bringing an inert gas into the inner chamber from an external source.
- 5 10. Apparatus as claimed in claim 1, wherein the support table is coupled to a positioning device that is operative to move the support table along a first axis.
11. Apparatus as claimed in claim 10, wherein the chamber system is
- 10 coupled to a positioning device that is operative to move the chamber system along a second axis perpendicular to the first axis.
12. Apparatus as claimed in claim 1, wherein the bump forming device is an ultrasonic wire bonder.
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13. Apparatus as claimed in claim 1, wherein the semiconductor devices are comprised in a semiconductor wafer and the support table is a wafer table.
- 20 14. Method for forming conductive bumps on a plurality of semiconductor devices with an oxidizable material, comprising the steps of:
- providing a support table for supporting the semiconductor devices;
- forming bumps on the semiconductor devices on the support table at a bumping site; and
- 25 moving the semiconductor devices from the bumping site into a chamber system after bumping while supplying an inert gas into the chamber system.
15. Method as claimed in claim 14, including supplying inert gas to the
- 30 bumping site during bumping.
16. Method as claimed in claim 14, wherein the bumping site is adjacent to an opening of the chamber system.

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17. Method as claimed in claim 14, including positioning a shroud around the bumping site for covering one or more bumped semiconductor devices.

5 18. Method as claimed in claim 17, including supplying an inert gas onto the semiconductor devices from the shroud.

19. Method as claimed in claim 14, wherein the chamber system comprises an outer chamber, and a removable inner chamber that is houseable within the outer chamber.

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20. Method as claimed in claim 19, including bringing an inert gas into the inner chamber from a detachable external source.

15 21. Method as claimed in claim 19, including forming an enclosure with the removable inner chamber for housing bumped semiconductor devices before removing the inner chamber.

22. Method as claimed in claim 14, including moving the support table along a first axis.

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23. Method as claimed in claim 22, further including moving the chamber system along a second axis perpendicular to the first axis.

24. Method as claimed in claim 14, wherein bumps are formed on the semiconductor devices with an ultrasonic wire bonder.

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25. Method as claimed in claim 14, wherein the semiconductor devices are comprised in a semiconductor wafer and the support table is a wafer table.